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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/058,291

DATE: 02/10/2002 TIME: 15:09:10 #2,

Input Set : N:\Crf3\RULE60\10058291.txt
Output Set: N:\CRF3\02102002\J058291.raw

## SEQUENCE LISTING

|    |   | SEQUENCE LISTING  |
|----|---|---|
| 4  | (1) GENE  | RAL INFORMATION:  |
| 6  | (i)   | APPLICANT: Hartley, James L.  |
| 7  |   | Brasch, Michael A.  |
| 9  | (ii)  | TITLE OF INVENTION: Recombinational Cloning Using Engineered  |
| 10 |   | Recombination Sites   |
| 12 | (iii)   | NUMBER OF SEQUENCES: 35   |
| 14 |   | CORRESPONDENCE ADDRESS:   |
| 15 | •   | (A) ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX, P.L.L.C  |
| 16 |   | (B) STREET: 1100 New York Ave., N. W. Suite 600   |
| 17 |   | (C) CITY: Washington  |
| 18 |   | (D) STATE: DC   |
| 19 |   | (E) COUNTRY: USA  |
| 20 |   | (F) ZIP: 20005-3934   |
| 22 | (V)   | COMPUTER READABLE FORM:   |
| 23 |   | (A) MEDIUM TYPE: Floppy disk  |
| 24 |   | (B) COMPUTER: IBM PC compatible   |
| 25 |   | (C) OPERATING SYSTEM: PC-DOS/MS-DOS   |
| 26 |   | (D) SOFTWARE: PatentIn Release #1.0, Version #1.30  |
| 28 | (vi)  | CURRENT APPLICATION DATA:   |
| 29 |   | (A) APPLICATION NUMBER: US/10/058,291   |
| 30 |   | (B) FILING DATE: 30-Jan-2002  |
| 56 |   | (C) CLASSIFICATION:   |
| 53 | (vii)   | PRIOR APPLICATION DATA:   |
| 34 |   | (A) APPLICATION NUMBER: 09/432,085  |
| 35 |   | (B) FILING DATE: 1999-11-02   |
| 39 |   | (A) APPLICATION NUMBER: 09/233,493  |
| 40 |   | (B) FILING DATE: 20-JAN-1999  |
| 44 |   | (A) APPLICATION NUMBER: 09/005,476  |
| 45 |   | (B) FILING DATE: 12-JAN-1998  |
| 49 |   | (A) APPLICATION NUMBER: 08/663,002  |
| 50 |   | (B) FILING DATE: 07-JUN-1996  |
| 54 |   | (A) APPLICATION NUMBER: 08/486,139  |
| 55 |   | (B) FILING DATE: 07-JUN-1995  |
| 58 | (ix)  | TELECOMMUNICATION INFORMATION:  |
| 59 |   | (A) TELEPHONE: 202-371-2600   |
| 60 |   | (B) TELEFAX: 202-371-2540   |
| 63 |   | RMATION FOR SEQ ID NO: 1:   |
|    |   | SEQUENCE CHARACTERISTICS:   |
|    |   | (A) LENGTH: 25 base pairs   |
|    |   | (B) TYPE: nucleic acid  |
|    |   | (C) STRANDEDNESS: both  |
| 69 |   | (D) TOPOLOGY: both  |
|    | 6 7 9 10 2 14 5 16 17 8 9 9 2 2 3 4 5 5 8 9 4 4 4 5 9 5 5 5 5 5 6 6 6 6 6 6 7 6 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 | 6 (i) 7 9 (ii) 10 12 (iii) 14 (iv) 15 16 17 18 19 20 22 (v) 23 24 25 26 28 (vi) 29 30 56 53 (vii) 34 35 39 40 44 45 49 50 54 55 58 (ix) 59 60 63 (2) INFO |

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| •  |     |
|--|-----|
| 71 (ii) MOLECULE TYPE: cDNA                  |     |
| 76 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:  | 25  |
| 78 RKYCWGCTTT YKTRTACNAA STSGB               | 20  |
| 80 (2) INFORMATION FOR SEQ ID NO: 2:         |     |
| 82 (i) SEQUENCE CHARACTERISTICS:             |     |
| 83 (A) LENGTH: 25 base pairs                 |     |
| 84 (B) TYPE: nucleic acid                    |     |
| 85 (C) STRANDEDNESS: both                    |     |
| 86 (D) TOPOLOGY: both                        |     |
| 88 (ii) MOLECULE TYPE: cDNA                  |     |
| 93 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:  | 25  |
| 95 AGCCWGCTTT YKTRTACNAA CTSGB               | 23  |
| 97 (2) INFORMATION FOR SEQ ID NO: 3:         |     |
| 99 (i) SEQUENCE CHARACTERISTICS:             |     |
| 100 (A) LENGTH: 25 base pairs                |     |
| 101 (B) TYPE: nucleic acid                   |     |
| 102 (C) STRANDEDNESS: both                   |     |
| 103 (D) TOPOLOGY: both                       |     |
| 105 (ii) MOLECULE TYPE: cDNA                 |     |
| 110 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3: | 25  |
| 112 GTTCAGCTTT CKTRTACNAA CTSGB              | 23  |
| 114 (2) INFORMATION FOR SEQ ID NO: 4:        |     |
| 116 (i) SEQUENCE CHARACTERISTICS:            |     |
| 117 (A) LENGTH: 25 base pairs                |     |
| 118 (B) TYPE: nucleic acid                   |     |
| 119 (C) STRANDEDNESS: both                   |     |
| 120 (D) TOPOLOGY: both                       |     |
| 122 (ii) MOLECULE TYPE: cDNA                 |     |
| 127 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: | 25  |
| 129 AGCCWGCTTT CKTRTACNAA GTSGB              | 23  |
| 131 (2) INFORMATION FOR SEQ ID NO: 5:        |     |
| 133 (i) SEQUENCE CHARACTERISTICS:            |     |
| 134 (A) LENGTH: 25 base pairs                |     |
| 135 (B) TYPE: nucleic acid                   |     |
| 136 (C) STRANDEDNESS: both                   |     |
| 137 (D) TOPOLOGY: both                       |     |
| 139 (ii) MOLECULE TYPE: CDNA                 |     |
| 144 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5: | ٥٢  |
| 146 GTTCAGCTTT YKTRTACNAA GTSGB              | 25  |
| 148 (2) INFORMATION FOR SEQ ID NO: 6:        |     |
| 150 (i) SEQUENCE CHARACTERISTICS:            |     |
| 151 (A) LENGTH: 25 base pairs                |     |
| 152 (B) TYPE: nucleic acid                   |     |
| 153 (C) STRANDEDNESS: both                   |     |
| 154 (D) TOPOLOGY: both                       |     |
| 156 (ii) MOLECULE TYPE: cDNA                 |     |
| 161 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6: | 0.5 |
| 163 AGCCTGCTTT TTTGTACAAA CTTGT              | 25  |
| 165 (2) INFORMATION FOR SEQ ID NO: 7:        |     |
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| 167 (i) SEQUENCE CHARACTERISTICS:  |    |
|--|----|
| 168 (A) LENGTH: 25 base pairs  |    |
| 169 (B) TYPE: nucleic acid   |    |
| 170 (C) STRANDEDNESS: both   |    |
| (D) TOPOLOGY: both   |    |
| 173 (ii) MOLECULE TYPE: cDNA   |    |
| 178 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:   | 25 |
| 180 AGCCTGCTTT CTTGTACAAA CTTGT  |    |
| 182 (2) INFORMATION FOR SEQ ID NO: 8:  |    |
| 184 (i) SEQUENCE CHARACTERISTICS:  |    |
| 185 (A) LENGTH: 25 base pairs  |    |
| 186 (B) TYPE: nucleic acid   |    |
| 187 (C) STRANDEDNESS: both   |    |
| 188 (D) TOPOLOGY: both   |    |
| 190 (ii) MOLECULE TYPE: cDNA   |    |
| 195 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:   | 25 |
| 197 ACCCAGCTTT CTTGTACAAA CTTGT  |    |
| 199 (2) INFORMATION FOR SEQ ID NO: 9:  |    |
| 201 (i) SEQUENCE CHARACTERISTICS:  |    |
| 202 (A) LENGTH: 25 base pairs  |    |
| 203 (B) TYPE: nucleic acid   |    |
| 204 (C) STRANDEDNESS: both   |    |
| 205 (D) TOPOLOGY: both   |    |
| 207 (ii) MOLECULE TYPE: cDNA<br>212 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:   |    |
| 212 (XI) SEQUENCE DESCRIPTION: SEQ ID NO. 3.<br>214 GTTCAGCTTT TTTGTACAAA CTTGT  | 25 |
| 214 GTTCAGCTTT TTTGTACAAA CITGT<br>216 (2) INFORMATION FOR SEQ ID NO: 10:  |    |
| · · · · · · · · · · · · · · · · · · ·  |    |
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| 221 (C) STRANDEDNESS: BOTH 222 (D) TOPOLOGY: both  |    |
| 224 (ii) MOLECULE TYPE: cDNA   |    |
| 229 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:  |    |
| 231 GTTCAGCTTT CTTGTACAAA CTTGT  | 25 |
| 233 (2) INFORMATION FOR SEQ ID NO: 11:   |    |
| 235 (2) INFORMATION TO THE STATE OF THE STAT |    |
| 236 (A) LENGTH: 25 base pairs  |    |
| 237 (B) TYPE: nucleic acid   |    |
| 238 (C) STRANDEDNESS: both   |    |
| 239 (D) TOPOLOGY: both   |    |
| 241 (ii) MOLECULE TYPE: CDNA   |    |
| 246 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:  |    |
| 248 GTTCAGCTTT CTTGTACAAA GTTGG  | 25 |
| 250 (2) INFORMATION FOR SEQ ID NO: 12:   |    |
| 252 (i) SEQUENCE CHARACTERISTICS:  |    |
| 253 (A) LENGTH: 25 base pairs  |    |
| 254 (B) TYPE: nucleic acid   |    |
| 255 (C) STRANDEDNESS: both   |    |
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| 256 (D) TOPOLOGY: both 258 (ii) MOLECULE TYPE: cDNA  |     |
|--|-----|
| 263 (XI) SEQUENCE DESCRIPTION: SEQ ID NO: 12:  |     |
| 265 AGCCTGCTTT TTTGTACAAA GTTGG  | 25  |
| 267 (2) INFORMATION FOR SEQ ID NO: 13:   |     |
| 269 (i) SEQUENCE CHARACTERISTICS:  |     |
| 270 (A) LENGTH: 25 base pairs  |     |
| 271 (B) TYPE: nucleic acid   |     |
| and the second s |     |
| 272 (C) STRANDEDNESS: BOTH 273 (D) TOPOLOGY: both  |     |
| 275 (ii) MOLECULE TYPE: cDNA   |     |
| TO TO NO. 12.  |     |
| 280 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:<br>282 AGCCTGCTTT CTTGTACAAA GTTGG   | 25  |
| 284 (2) INFORMATION FOR SEQ ID NO: 14:   |     |
| CHILDICAL CONTRACTOR   |     |
| and the same and t |     |
| 3 1 - 1 - 1 - 1 - 1  |     |
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| 297 (XI) SEQUENCE DESCRIPTION: SEQ 1D NO: 14.  | 25  |
| 299 ACCCAGCTTT CTTGTACAAA GTTGG  |     |
| 301 (2) INFORMATION FOR SEQ ID NO: 15:   |     |
| 303 (i) SEQUENCE CHARACTERISTICS:  |     |
| 304 (A) LENGTH: 25 base pairs  |     |
| 305 (B) TYPE: nucleic acid   |     |
| 306 (C) STRANDEDNESS: both   |     |
| 307 (D) TOPOLOGY: both .   |     |
| 309 (ii) MOLECULE TYPE: cDNA   |     |
| 314 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:  | 25  |
| 316 GTTCAGCTTT TTTGTACAAA GTTGG  |     |
| 318 (2) INFORMATION FOR SEQ ID NO: 16:   |     |
| 320 (i) SEQUENCE CHARACTERISTICS:  |     |
| 321 (A) LENGTH: 25 base pairs  |     |
| 322 (B) TYPE: nucleic acid   |     |
| 323 (C) STRANDEDNESS: both   |     |
| 324 (D) TOPOLOGY: both   |     |
| 326 (ii) MOLECULE TYPE: cDNA   |     |
| 331 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:  | 25  |
| 333 GTTCAGCTTT CTTGTACAAA GTTGG  |     |
| 335 (2) INFORMATION FOR SEQ ID NO: 17:   |     |
| 337 (i) SEQUENCE CHARACTERISTICS:  |     |
| 338 (A) LENGTH: 39 base pairs  |     |
| 339 (B) TYPE: nucleic acid   |     |
| 340 (C) STRANDEDNESS: both   |     |
| 341 (D) TOPOLOGY: both   |     |
| 343 (ii) MOLECULE TYPE: cDNA   |     |
| 348 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:  | 39  |
| 350 CCACCACAAA CGCGTCCATG GAATTACACT TTAATTTAG   | 3,5 |
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| 352 (2) INFORMATION FOR SEQ ID NO: 18:                   |     |
|--|-----|
| 354 (i) SEQUENCE CHARACTERISTICS:                        |     |
| 355 (A) LENGTH: 39 base pairs 356 (B) TYPE: nucleic acid |     |
| · ·  |     |
| 357 (C) STRANDEDNESS: both 358 (D) TOPOLOGY: both        |     |
| 358 (D) TOPOLOGY: both 360 (ii) MOLECULE TYPE: cDNA      |     |
| 365 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:            |     |
| 367 CCACCACAAG TCGACGCATG CCGACAGCCT TCCAAATGT           | 39  |
| 369 (2) INFORMATION FOR SEQ ID NO: 19:                   |     |
| 371 (i) SEQUENCE CHARACTERISTICS:                        |     |
| 372 (A) LENGTH: 46 base pairs                            |     |
| 373 (B) TYPE: nucleic acid                               |     |
| 374 (C) STRANDEDNESS: both                               |     |
| 375 (D) TOPOLOGY: both                                   |     |
| 377 (ii) MOLECULE TYPE: cDNA                             |     |
| 382 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:            |     |
| 384 GGCCGATTAC GATATCCCAA CGACCGAAAA CCTGTATTTT CAGGGT   | 46  |
| 386 (2) INFORMATION FOR SEQ ID NO: 20:                   |     |
| 388 (i) SEQUENCE CHARACTERISTICS:                        |     |
| 389 (A) LENGTH: 30 base pairs                            |     |
| 390 (B) TYPE: nucleic acid                               |     |
| 391 (C) STRANDEDNESS: both                               |     |
| 392 (D) TOPOLOGY: both                                   |     |
| 394 (ii) MOLECULE TYPE: cDNA                             |     |
| 399 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:            |     |
| 401 CAGGTTTTCG GTCGTTGGGA TATCGTAATC                     | 30  |
| 403 (2) INFORMATION FOR SEQ ID NO: 21:                   |     |
| 405 (i) SEQUENCE CHARACTERISTICS:                        |     |
| 406 (A) LENGTH: 47 base pairs                            |     |
| 407 (B) TYPE: nucleic acid                               |     |
| 408 (C) STRANDEDNESS: both                               |     |
| 409 (D) TOPOLOGY: both                                   |     |
| 411 (ii) MOLECULE TYPE: cDNA                             |     |
| 416 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:            | 4.7 |
| 418 GGCCAGATTA CGATATCCCA ACGACCGAAA ACCTGTATTT TCAGGGT  | 47  |
| 420 (2) INFORMATION FOR SEQ ID NO: 22:                   |     |
| 422 (i) SEQUENCE CHARACTERISTICS:                        |     |
| 423 (A) LENGTH: 31 base pairs                            |     |
| 424 (B) TYPE: nucleic acid                               |     |
| 425 (C) STRANDEDNESS: both                               |     |
| 426 (D) TOPOLOGY: both                                   |     |
| 428 (ii) MOLECULE TYPE: cDNA                             |     |
| 433 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:            | 31  |
| 435 CAGGTTTTCG GTCGTTGGGA TATCGTAATC T                   | 31  |
| 437 (2) INFORMATION FOR SEQ ID NO: 23:                   |     |
| 439 (i) SEQUENCE CHARACTERISTICS:                        |     |
| 440 (A) LENGTH: 48 base pairs 441 (B) TYPE: nucleic acid |     |
| 441 (B) TYPE: nucleic acid                               |     |

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/058,291

DATE: 02/10/2002

TIME: 15:09:11

Input Set : N:\Crf3\RULE60\10058291.txt
Output Set: N:\CRF3\02102002\J058291.raw

L:29 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]

L:30 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]

L:33 M:220 C: Keyword misspelled or invalid format, [(vii) PRIOR APPLICATION DATA:]